The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-27. Canceled.

28. (Previously Presented) A micro-dialysis probe comprising:

a proximal probe opening providing access to a supply line and a drainage line;

a distal probe tip for introducing the probe into subcutaneous tissue;

a supply line for introducing drip-feed solution into the probe, the supply line having a dialysis opening in the vicinity of the probe tip;

a drainage line formed as a hollow fiber, the hollow fiber being exposed to surrounding tissue in the vicinity of the probe tip;

a dialysis section being formed between the supply line and the drainage line in the area of the supply line dialysis opening and the exposure of the hollow fiber to surrounding tissue;

the drip-feed solution flowing through the supply line experiencing an inversion in the area of the dialysis section and between the supply line and the drainage line,

the supply line and drainage line together forming a probe shaft, the supply line and the drainage line being arranged as separate hollow channels of the probe shaft.

29. (Previously Presented) The micro-dialysis probe of claim 28, wherein the probe tip is pointed and sealed with a sealing material.

30. (Previously Presented) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line are fixed to one another using a fixing material in the area of the probe shaft between the proximal probe opening and the dialysis section.

31. (Previously Presented) The micro-dialysis probe of claim 28, further including a tube surrounding the drainage line, the tube having recesses to expose the hollow fiber to surrounding tissue in the vicinity of the probe tip.

32. (Previously Presented) The micro-dialysis probe of claim 31, wherein the supply line and the drainage line, together with the tube surrounding the drainage line, are fixed to one another using a fixing material in the area of the probe shaft between the proximal probe opening and the dialysis section.

33. (Previously Presented) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line each extend substantially linearly.

34. (Previously Presented) The micro-dialysis probe of claim 28, wherein the supply line and the drainage line are arranged substantially side-by-side.

35. (Previously Presented) The micro-dialysis probe of claim 28, wherein the hollow fiber of the drainage line penetrates into the supply line proximally of the inversion, the hollow fiber being fixed in the area of the probe tip such that a linear course of flow is achieved distal of the inversion, while proximally of the inversion the hollow fiber is sealed in a tube surrounding the drainage line.

36. (Previously Presented) The micro-dialysis probe of claim 35, wherein a section of the tube lies over the hollow fiber in the area of the probe tip and thereby forms a supporting section for the hollow fiber.

37. (Previously Presented) The micro-dialysis probe of claim 36, wherein the supply line and supporting section together form an outer framework that shields the hollow fiber from surrounding tissues.

38. (Previously Presented) The micro-dialysis probe of claim 28, wherein the hollow fiber is formed to be replaceable and is sealed in the tube.

39. (Previously Presented) The micro-dialysis probe of claim 28, wherein the shaft formed by the supply line and the drainage line further includes a supporting profile for separating the

supply line and the drainage line from each other, the supporting profile including overflow openings in the area of flow inversion.

40. (Previously Presented) The micro-dialysis probe of claim 39, wherein the profile is star-shaped.

41. (Previously Presented) The micro-dialysis probe of claim 40, wherein the profile is star-shaped as a three-armed star.

42. (Previously Presented) The micro-dialysis probe of claim 40, wherein the profile is star-shaped as a four-armed star.

43. (Previously Presented) The micro-dialysis probe of claim 39, wherein the profile is flat.

44. (Previously Presented) The micro-dialysis probe of claim 43, wherein the profile comprises bristles or knobs on at least one of its flat sides to support the hollow fiber.

45. (Previously Presented) The micro-dialysis probe of claim 44, wherein the supply line and the drainage line each extend substantially linearly.

46. (Previously Presented) A micro-dialysis probe comprising:

a probe shaft having a proximal end and a distal probe tip;

a hollow fiber forming a supply line for introducing drip-feed solution into the probe and a drainage line, the supply line and drainage line being arranged as separate hollow channels of the probe shaft and together being formed by the shaft itself, the supply line and the drainage line extending substantially side-by-side;

a supporting profile inserted into the hollow fiber, the supporting profile separating the supply line from the drainage line, the supporting profile at least one overflow opening, the drip-feed liquid flowing from the supply line into the drainage line in the area of the overflow opening, the drip-feed liquid there experiencing an inversion.

47. (Previously Presented) The micro-dialysis probe of claim 46, further comprising a primary dialysis section in the area of flow inversion between the supply line and the drainage line.

48. (Previously Presented) The micro-dialysis probe of claim 46, further comprising a dialysis section extending from the shaft to the probe tip and within both the supply line and the drainage line.

49. (Previously Presented) The micro-dialysis probe of claim 46, wherein the supply line and the drainage extend substantially linearly.

50. (Previously Presented) The micro-dialysis probe of claim 46, wherein the supply line and the drainage line are arranged substantially side-by-side.

51. (Previously Presented) The micro-dialysis probe of claim 46, wherein the drainage line comprises two drainage channels.

52. (Previously Presented) The micro-dialysis probe of claim 46, wherein the supply line is accommodated by a supply hose inserted in the probe shaft.

53. (Previously Presented) The micro-dialysis probe of claim 46, wherein the drainage line is accommodated by a drainage hose inserted in the probe shaft.

54. (Previously Presented) The micro-dialysis probe of claim 46, wherein the supply line and drainage line are integrated by a fixing material.

55. (Previously Presented) The micro-dialysis probe of claim 46, further including a supporting profile for separating the supply line and the drainage line from each other, the supporting profile including overflow openings in the area of flow inversion.

56. (Previously Presented) The micro-dialysis probe of claim 55, wherein the profile is star-shaped.

57. (Previously Presented) The micro-dialysis probe of claim 56, wherein the profile is star-shaped as a three-armed star.

58. (Previously Presented) The micro-dialysis probe of claim 56, wherein the profile is star-shaped as a four-armed star.

59. (Previously Presented) The micro-dialysis probe of claim 55, wherein the profile is flat.

60. (Previously Presented) The micro-dialysis probe of claim 59, wherein the profile comprises bristles or knobs on at least one flat side to support the hollow fiber.

61. (Previously Presented) A micro-dialysis probe comprising:

a proximal probe opening providing access to a supply line and a drainage line;

a distal probe tip for introducing the probe into subcutaneous tissue;

a supply line for introducing drip-feed solution into the probe,

a drainage line;

a dialysis section being formed between the supply line and the drainage line;

the drip-feed solution flowing through the supply line in a flow direction, the flow direction being reversed in the area of the dialysis section and between the supply line and the drainage line.

62. (Previously Presented) The micro-dialysis probe of claim 61, wherein the drainage line is formed as a hollow fiber, the hollow fiber being exposed to surrounding tissue in the area of the dialysis section.

63. (Previously Presented) The micro-dialysis probe of claim 62, further including a tube surrounding the drainage line, the tube having recesses to expose the hollow fiber to surrounding tissue in the area of the dialysis section.

64. (Previously Presented) The micro-dialysis probe of claim 63, wherein the hollow fiber is formed to be replaceable and is sealed in the tube.

65. (Previously Presented) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line each extend substantially linearly.

66. (Previously Presented) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line are arranged substantially side-by-side.

67. (Previously Presented) The micro-dialysis probe of claim 61, wherein the supply line and the drainage line are formed by a hollow fiber.

68. (Previously Presented) The micro-dialysis probe of claim 67, wherein the supply line and the drainage line extend substantially side-by-side.

69. (Previously Presented) The micro-dialysis probe of claim 67, wherein the supply line and the drainage line extend substantially linearly.

70. (Previously Presented) The micro-dialysis probe of claim 67, further including a supporting profile for separating the supply line and the drainage line from each other, the supporting profile including overflow openings in the area in which the flow direction is reversed.

71. (Previously Presented) The micro-dialysis probe of claim 67, wherein the profile is star-shaped.

72. (Previously Presented) The micro-dialysis probe of claim 71, wherein the profile is star-shaped as a three-armed star.

73. (Previously Presented) The micro-dialysis probe of claim 71, wherein the profile is star-shaped as a four-armed star.

74. (Previously Presented) The micro-dialysis probe of claim 67, wherein the profile is flat.

75. (Previously Presented) The micro-dialysis probe of claim 74, wherein the profile comprises bristles or knobs on at least one flat side to support the hollow fiber.